09/736157

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Term: L6 and metal cation

Display: 10 **Documents in Display Format:** - **Starting with Number** 1

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DATE: Wednesday, January 14, 2004 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ			
L7	L6 and metal cation	2	L7
L6	(amplif$7 or PCR) near10 (fragmenting or digest$3 or cut$3) near10 (label$3 or mark$3)	273	L6
L5	l2 and metal cation	12	L5
L4	l2 and (metal cation near5 presen$2)	0	L4
L3	L2 and (metal cation near5 presen$2 near5 solution)	0	L3
L2	L1 and in vitro	621	L2
L1	(amplif$7 or PCR) near10 fragment$3 near10 (label$3 or mark$3)	1942	L1

END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 10 of 12 returned.

☐ 1. 6358691. 02 Oct 00; 19 Mar 02. Target-dependent reactions using structure-bridging oligonucleotides. Neri; Bruce, et al. 435/6; 536/23.1 536/24.3. C12Q001/68 C07H021/02 C07H021/04 C12N015/00.

☐ 2. 6355437. 02 Oct 00; 12 Mar 02. Target-dependent reactions using structure-bridging oligonucleotides. Neri; Bruce, et al. 435/6; 536/23.1 536/24.3. C12Q001/68 C07H021/02 C07H021/04 C12N015/00.

☐ 3. 6214545. 05 May 97; 10 Apr 01. Polymorphism analysis by nucleic acid structure probing. Dong; Fang, et al. 435/6; 536/23.1 536/24.3 536/24.31 536/24.32 536/24.33 536/24.5. C12Q001/68 C07H021/04 C07H015/11 C07H021/02.

☐ 4. 6194149. 03 Mar 98; 27 Feb 01. Target-dependent reactions using structure-bridging oligonucleotides. Neri; Bruce, et al. 435/6; 536/23.1 536/24.3. C12Q001/68 C07H021/02 C07H021/04.

☐ 5. 6168948. 12 Jan 98; 02 Jan 01. Miniaturized genetic analysis systems and methods. Anderson; Rolfe C., et al. 435/287.2; 366/DIG.3 435/287.9 435/288.6 435/6. C12M001/34.

☐ 6. 5948635. 06 Jun 95; 07 Sep 99. Totally Synthetic Affinity Reagents. Kay; Brian K, et al. 435/69.1; 435/471 435/69.7 435/7.1 536/23.4. C12N015/09 C12N015/62.

☐ 7. 5912120. 06 May 94; 15 Jun 99. Cloning, expression and diagnosis of human cytochrome P450 2C19: the principal determinant of s-mephenytoin metabolism. Goldstein; Joyce A., et al. 435/6; 435/197 536/22.1 536/23.1 536/23.2 536/23.5 536/24.3 536/24.31 536/24.33. C12Q001/68 C12N009/18 C07H019/00 C07H021/00.

☐ 8. 5852167. 06 Jun 95; 22 Dec 98. Totally synthetic affinity reagents. Kay; Brian K., et al. 530/300; 530/350 530/387.1 530/387.2 530/388.1. C07K014/00.

☐ 9. 5844076. 06 Jun 95; 01 Dec 98. Totally synthetic affinity reagents. Kay; Brian K., et al. 530/326;. A61K038/04.

☐ 10. 5747334. 31 Jan 94; 05 May 98. Random peptide library. Kay; Brian K, et al. 435/320.1; 435/252.3 435/69.7. C12N015/09 C12N005/10 C12N015/62.

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Term	Documents
METAL	2763983
METALS	468084
CATION	145573
CATIONS	61855

First Hit Fwd Refs

L7: Entry 1 of 2 File: USPT Dec 3, 2002

DOCUMENT-IDENTIFIER: US 6489114 B2
TITLE: Process for labeling a ribonucleic acid, and labeled RNA fragments which are obtained thereby

Abstract Text (1):
A process is provided for labeling with signal amplification a ribonucleic acid (RNA), comprising fragmenting the RNA to form RNA fragments, fixing a first ligand to a terminal phosphate located at least one of the 3' end and the 5' end of each of a plurality of the RNA fragments, the terminal phosphate having been released during the fragmentation, and binding a plurality of labeling agents to the first ligand on each of a plurality of the fragments.

Brief Summary Text (16):
Second, the fragmentation can be chemical. For example, in the case of DNA sequences, the depurination or depyrimidination using alkylating agents generates abasic sites which are then fragmented in the presence of a base by a mechanism termed ".beta.-elimination" (T. Lindahl et al., Rate of Chain breakage at apurinic sites in double-stranded deoxyribonucleic acid., Biochemistry, 11, p3618-3623, 1972). The DNA's can be fragmented by oxidation, alkylation or free radical addition mechanisms, inter alia (M. Liuzzi et al., Characterization and damage in gamma-irradiated and OsO4-treated DNA using methoxyamine., Int. J. Radiat. Biol., 54, p709-722, 1988). Metal cations, which are often combined with organic molecules used as chemical catalysts, for example imidazole, are used for fragmenting RNA's. (R. Breslow and R. Xu, Recognition and catalysis in nucleic acid chemistry, Proc. Natl. Acad. Sci. USA, 90, p1201-1207, 1993. J. Hovinen et al. Imidazole Tethered oligonucleotides: Synthesis and R cleaving activity, J. Org. Chem., 60, p2205-2209, 1995). This fragmentation is preferably carried out in an alkaline medium and generates fragments having 3'-phosphate ends. Each of these documents is hereby incorporated by reference for all purposes.

Brief Summary Text (21):
No process of fragmenting before labeling with signal amplification has been described in the prior art.

Brief Summary Text (48):
Chemical fragmentation of the RNA is carried out by metal cations which may or may not be combined with a chemical catalyst.

Brief Summary Text (49):
In this case, the metal cations are Mg.sup.++, Mn.sup.++, Cu.sup.++, Co.sup.++ and/or Zn.sup.++ ions and the chemical catalyst comprises imidazole, a substituted analogue, for example N-methylimidazole, or any chemical molecule which has an affinity for the RNA and which carries an imidazole ring or a substituted analogue.

CLAIMS:

1. A process for labeling with signal amplification a ribonucleic acid (RNA), comprising: fragmenting the RNA to form RNA fragments, fixing a first ligand to a terminal phosphate located at least one of the 3' end and the 5' end of each of a plurality of said RNA fragments, said terminal phosphate having been released

during the fragmentation, and binding a plurality of labeling agents to said first ligand on each of a plurality of said fragments.

17. A process according to claim 15, wherein the fragmenting is carried out chemically with metal cations optionally combined with a chemical catalyst.

18. A process according to claim 1, wherein the fragmenting is carried out with metal cations selected from the group consisting of Mg.sup.++, Mn.sup.++, Cu.sup.++, Co.sup.++ and Zn.sup.++ ions, and a chemical catalyst comprised of imidazole, a substituted imidazole analogue, or any chemical molecule which has an affinity for the RNA and which carries an imidazole nucleus or a substituted imidazole analogue.